U. S. DEPARTMENT OF AGRICULTURE - FOREST SERVICE
CALIFORNIA FOREST AND RANGE EXPERIMENT STATION
Division of Forest Insect Research

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IPS
SPECIAL
Biol. Factors
Insects

ANNUAL REPORT OF FOREST INSECT CONTROL IN THE SAN JACINTO INFESTATION AREA, SAN BERNARDINO NATIONAL FOREST

FISCAL YEAR 1953

The San Jacinto infestation area is located in the San Jacinto Mountains, approximately 50 miles southeast of San Bernardino, California. The area is completely within the San Jacinto Ranger District, San Bernardino National Forest.

This is a high use recreational area, with activities centered around the resort town of Idyllwild. As with other mountain resort areas in Southern California, this area is characterized by many summer homes, year-long residences, organizational camps, picnic and campground facilities, etc.

The 1952-53 control project follows a pattern of several years standing, that of cooperative participation. Although all of the actual control work is performed by the U. S. Forest Service, the financing is attained through a cooperative agreement involving the United States Government, the State of California, and the Riverside County Flood Control District. Federal funds cover the cost of control on Federal lands. The cost of control on private lands is shared equally by the State of California and the Riverside County Flood Control District, the State Division of Forestry representing the State interests in this agreement.

Host Species and Insect

The stand is composed of Coulter pine, Jeffrey pine, ponderosa pine, sugar pine, incense-cedar, white fir and bigcone Douglas-fir. The Coulter pine tends to extend in a band along the west side of the infestation area, where it is intermixed with the brush. Jeffrey pine is found as a pure stand at the southern end of the area, and the remaining tree species are scattered throughout the infestation area.

Host and major insect species are as follows:

Coulter pine - Western pine beetle, Dendroctonus brevicomis Lec.; the California flatheaded borer, Melanophila californica Van Dyke; and the California five-spined engraver, Ips confusus (Lec.).

Jeffrey pine - California flatheaded borer, Melanophila californica Van Dyke; and the California five-spined engraver, Ips confusus (Lec.).

Ponderosa pine -Western pine beetle, Dendroctonus brevicomis Lec.; the California flatheaded borer, Melanophila californica Van Dyke; the California five-spined engraver, Ips confusus (Lec.); and the mountain pine beetle, Dendroctonus monticolae Hopk.

Sugar pine - Mountain pine beetle, Dendroctonus monticolae Hopk.; and the California five-spined engraver, Ips confusus (Lec.).

White fir - Fir engraver, Scolytus ventralis Lec.

Incense-cedar and Bigcone Douglas-fir - No important insect enemies.

The Infestation

The 1952-53 losses followed almost the same pattern as in recent years, that of fairly heavy Coulter and ponderosa pine loss due to the western pine beetle, and heavy damage to white fir from the fir engraver. Although no control efforts have been attempted against the fir engraver, losses did taper off from the previous year's high and showed signs of being definitely on the decline.

Losses due to the California flatheaded borer continued at a high level, although an accurate check has not been made as to the seriousness of the problem year by year. No control attempts have been made against this insect species in recent years. However, control of flatheads, with penetrating oil sprays, was tested experimentally in two areas during the 1952-53 season and showed promise of being effective. These results have lead to the recommendation that all flathead infested trees within the infestation area be treated during the 1953-54 project year.

Sugar pine losses, due to the mountain pine beetle, were moderate during the year. Sugar pines found to be currently infested were included in the control operation.

The Control Operation

The control operation was spread out over the period from December 1952 to May 1953. Spotting and treating progressed intermittently as weather and manpower commitments allowed.

The project covered 14,449 acres.

Method of treatment was divided between burning, and the use of orthodichlorobenzene (1 part) in diesel fuel (6 parts). In the latter method the trees were felled, bucked into suitable lengths for rolling and then sprayed on all sides.

Number of trees spotted:

U. S.	55
Private	108
TOTAL	163

Number of trees treated:

U. S. - Sprayed	46
- Burned	9
TOTAL	55
Private - Sprayed	37
- Burned	71
TOTAL	108
Average d.b.h.	22"
Man days - U. S.	82
- Private	187
TOTAL	269
Trees per man day - U. S.	.67
- Private	.58
Approximate gals. of ortho used	130
Approximate gals. of diesel fuel used	780
Average number of gals. spray per tree	10.96

Technical assistance was furnished by the Division of Forest Insect Research, Berkeley, California.

Costs

The project was financed on a cooperative basis as follows:

Federal expenditure on Federal lands	$1708.03
State of California and Riverside County Flood Control District (shared equally in control costs on private land)	3105.01
TOTAL	$4813.04
Average cost per tree - U. S.	$ 31.05
- Private	28.75

Recommendations

1. That a policy of year-round forest insect control be followed.

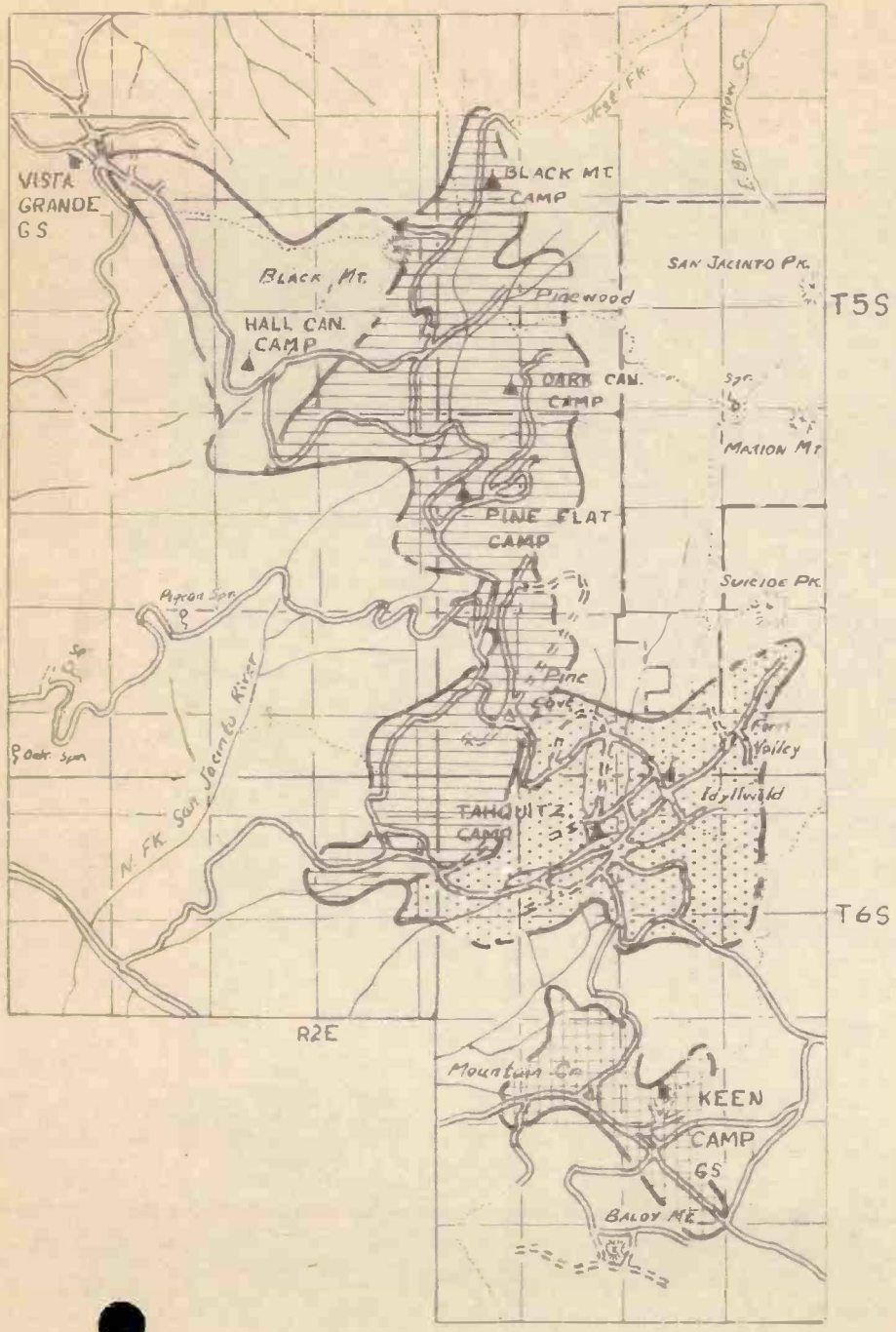
2. That control of the California flatheaded borer over the entire infestation area be included in the 1953-54 control project. Treating of flathead-infested trees to be done by the same methods, using the same spray formulation, that has been used against the western pine beetle on this project.

3. That the Division of Forest Insect Research furnish the training and technical advice necessary to the spotting and treating of flathead infested trees.

4. That, in the light of recent tree losses, the Garner Valley area be included in the 1953-54 project area. Garner Valley adjoins the southern end of the present infestation area.

Berkeley, California
March 9, 1954

G. L. Downing
Entomologist



UNITED STATES DEPARTMENT OF AGRICULTURE

BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

BERKELEY FOREST INSECT LABORATORY

SAN JACINTO INFESTATION AREA

RIVERSIDE COUNTY, CALIFORNIA

SAN BERNARDINO MERIDIAN

LEGEND

- Indian CK. Basin
- Strawberry Basin
- North F.K. Basin
- Dry CK. Basin
- Boundary of Control Units
- San Jacinto State Park Boundary

SCALE

In 0 ½ 1 2 3 4 Miles